

The American aux. sch. *Flaurence Ward* which plies between Honolulu and neighboring islands was just to the eastward of Midway Island during the period when this depression reached its greatest intensity.

According to the report of Capt. Geo. H. Piltz of that vessel conditions became threatening on the 22d. At 4 p. m. on that date the wind was SE., 4, barometer 29.62 inches and falling steadily. At 6:30 p. m. the wind went to S. and at 8 p. m. to SSW., where it remained throughout the entire time of the gale, lasting until midnight of the 24th. The barometer continued to fall until midnight of the 23d when it stood at 29.12 inches, remaining at that point until 4 a. m. of the 24th. The wind increased steadily in force and reached its greatest intensity, force 11, between 8 a. m. and noon of the 24th, or just after the pressure had begun to rise. At the commencement of the storm there was terrific lightning and heavy rain and the weather remained squally until the force of the gale began to abate.

The respective Greenwich Mean Noon positions of the *Flaurence Ward* on the dates mentioned were as follows: 23d, latitude 27° 40' N., longitude 167° 30' W.; 23d, latitude 27° 42' N., longitude 166° 23' W.; 24th, latitude 27° 55' N., longitude 163° 51' W.

This depression occasioned a kona, or southwest, storm at Honolulu from the 22d to the 25th. During this period the wind reached a maximum velocity of 36 miles an hour from the west and an extreme velocity of 42 miles. The rainfall for the same period was 6.21 inches, of which 4.83 inches fell in 24 hours. The total rainfall for the month at Honolulu was 8.72 inches, or considerably more than twice the average amount. The mean temperature was 1.3° above the normal.

Between the 22d and the end of the month pressure was generally low over the northeastern part of the ocean with the center of greatest depression over the Gulf of Alaska. East of the 180th meridian high pressure was confined to the region between the Hawaiian Islands and the American coast.

Vessels on the northern steamer routes during the last decade experienced stormy weather not only as a result of the depression referred to but also on account of one which appeared to be central to the east of Japan on the 28th.

The American S. S. *Mobile City*, Capt. C. H. Longbottom, Shanghai for Seattle (Dec. 22-Jan. 8), experienced strong winds and gales during the entire voyage. On December 30-31, so states Mr. C. Kennedy, the observer, when nearing the 180th meridian, the *Mobile City* encountered a gale of hurricane force accompanied by terrific seas on account of which it was necessary to put about and run before the gale. As it appeared from conditions that the depression was traveling in a northeasterly direction a course was laid to the southward as soon as conditions permitted and the vessel soon ran into fine weather. The lowest barometer observed was 28.69 inches at 4 a. m. of the 31st, when in latitude 48° 35' N., longitude 178° E.

The Japanese S. S. *Africa Maru*, Capt. H. Yamamoto, Yokohama for Victoria (Dec. 17-30) appears to have been near the center of the depression in the Gulf of Alaska near the close of the month. At 2 a. m. on the 27th, when in latitude 50° 48' N., longitude 147° 22' W., the barometer fell to 28.39 inches, accompanied by a whole gale from WSW. and a tremendous sea.

In Asiatic waters several vessels experienced about the 7th heavy weather as a result of depressions on the front of an anticyclone of great magnitude which developed over eastern Siberia.

Storm logs are as follows:

West Ira, American S. S., Capt. C. F. Cross, Yokohama, (Dec. 1), for San Francisco:

Gale began on 8th; lowest barometer 30.03 inches at 8 p. m. of 9th in latitude 39° N., longitude 144° E.; highest force of wind, 9 NW. End of gale, 11th; shifts of wind, WNW., NW.

West Niger, American S. S., Capt. R. L. Holt, Hongkong (Dec. 1), for San Francisco:

Gale began on 7th; lowest barometer 29.54 inches at 4 p. m. of 7th in latitude 31° 30' N., longitude 137° 50' E.; highest force of wind, 10, NW.; end of gale on 8th. Shifts of wind NE., E., WSW., NW., W., NW.

West Cadron, American S. S., Capt. F. E. Anderson, Shanghai (Dec. 2), for San Francisco:

Gale began on 7th; lowest barometer, 29.35 inches at 8 p. m. of 7th in latitude 35° 35' N., longitude 142° 35' E.; highest force of wind 9, NE.; end of gale on 8th; shifts of wind NE. to NNE.

The closing days of the month saw renewed storm activity on the Asiatic side resulting from a depression which appears to have developed to the east of Japan about the 27th, moving thence northeastward toward the Aleutians. The British S. S. *Empress of Russia*, the Japanese S. S. *Alabama Maru* and *Korea Maru*, and the American S. S. *Mobile City* were all more or less involved in this storm from the 27th to the 31st. The experience of the last-named vessel has already been described.

On the 16th, as a result of the southeastward movement over the western United States and Mexico of an anticyclone of great magnitude fresh to strong easterly winds, reaching gale force at times, were experienced off the west coast of Central America.

The American S. S. *Stanley*, Capt. B. I. Joyce, Panama (Dec. 11) for Honolulu, experienced a gale which began on the 15th and continued until the 17th, the wind throughout being NE. and reaching a force of 10. The lowest barometer was 29.81 inches at 11 p. m. of the 15th in latitude 12° 03' N., longitude 95° 52' W.

In connection with the low barometer in the North Pacific Ocean during the last decade of the month attention is invited to the low pressure in the North Atlantic during the same period, which is referred to in the review of the weather for that ocean. The departure from normal pressure at Midway Island from the 21st to 31st, inclusive, was -0.31 inch and at Horta for the same period -0.57 inch.

TYPHOON IN THE WESTERN CAROLINES.

On the morning of December 17, a very severe typhoon swept the Western Carolines, causing great destruction on the Island of Yap. A cablegram to this effect was received by Manila Observatory on the 19th, in which our Filipino observer at Yap stated that the barometric minimum as registered by the barograph was as low as 712.47 mm. (28.05 inches), that hurricane winds blew there from northeast veering to south-southeast, and that the majority of our instruments were destroyed.

The above information was confirmed later by the following cablegram from Tokyo, dated December 20, which appeared in the Manila newspapers on December 22: "A very severe storm has destroyed the majority of the buildings on the Island of Yap. The gale prevailing there on December 16 developed a hurricane strength on the morning of the 17th, unroofing several public structures, including the barracks, Government offices, the native school, the telegraph office, the hotel, and several stores, and severely damaging practically every house."

The typhoon appeared about 300 or 250 miles to the east of the Philippines on December 20, threatening for a while to cross the central part of the archipelago. But fortunately it almost stopped moving on the 21st and finally filled up on the 23d, thus disappearing all danger for the Philippines.—Rev. José Coronas, S. J., Philippine Weather Bureau.